REMARKS

The present invention relates to a continuously variable transmission device of the type having planets in rolling contact with both radially inner and outer races. The planets transmit the rotary motion of the inner race to the outer race in a variable ratio depending upon the position of the planet.

A control means determines the axial separation of the parts of one of the two races which allows the radial position of the planets to vary in response to a variation of the action separation of that part of the race. Furthermore, a generatrix of a curved rolling contact surface of the race is non-circular and the curved rolling contact surface of the races and the planets is a volute, involute or evolute curve.

The Patent Examiner has raised some objection to the claims in this case under 35 U.S.C. §112. That rejection under 35 U.S.C. §112 has been corrected by the appropriate amendment to claim 1. Specifically, the recitation "the curved surface" has now been amended to read "a curved roller contact surface".

Amended claim 1 thus incorporates the limitations of previously submitted claim 3 together with additional language to clearly define Applicant's invention over the prior art references of record.

The Patent Examiner, however, has previously rejected claim 3 as anticipated by either the Milner '417 PCT publication, now U.S. Patent No. 6,461,268, or the Milner '256 PCT publication, now U.S. Patent No. 7,125,359. However, in view of Applicant's amendments to claim 1, Applicant respectfully submits that this basis for rejection can no longer stand.

More specifically, Milner '417 discloses a continuously variable transmission device. In the embodiment illustrated in FIG. 8 of Milner '417, the radially outer race has a curved inner

contact surface with four local annular features in the form of sectors of a shorter radius curvature than the overall radius of the curvature of the race. This effectively provides for incremental adjustments so that, although the adjustment is infinitely variable, it can simulate an incremental adjustment pattern of a conventional gear box; see column 14, lines 31-35.

However, Milner '417 fails to disclose a generatrix of a curved rolling contact surface of the races that is non-circular that is now clearly defined in amended claim 1. Instead, in Milner '417, the four local annular features are clearly circular in shape, i.e. if the generatrix of either contact surface 201 or the local annular features 203 of Milner '417 were extrapolated, the resultant shape in each case would be circular, rather than volute, involute or evolute as now required by amended claim 1.

Additionally, Milner '417 fails to disclose a generatrix of a curved rolling contact surface of the planets that is non-circular in shape. Rather, the planets of Milner '417 are clearly spherical in shape; see column 14, lines 28-30.

Furthermore, Milner '417 fails to disclose that at least a part of the generatrix of the curved rolling contact surface of the races and the planet is a volute, involute or evolute curve as now required by amended claim 1. This feature, furthermore, of Applicant's invention is now clearly defined in amended claim 1.

For the foregoing reasons, Applicant respectfully submits that the Patent Examiner's rejection of claims 1 and 3 as unpatentable over Milner '417 can no longer stand.

The Patent Examiner, however, has also rejected claims 1 and 3 as anticipated by Milner '256 (U.S. Patent No. 7,125,359). In view of the amendments made to claim 1, Applicant respectfully submits that this basis for rejection can no longer stand.

More specifically, Milner '256 admittedly discloses a continuously variable transmission device, but fails to disclose a generatrix of a curved rolling contact surface of the races that is non-circular as is now clearly required by claim 1 in this application. Furthermore, Milner '256 fails to disclose a generatrix of a curved rolling contact surface of the planets that is non-circular as is required by claim 1. Instead, the generatrix of the races and planets is, in fact, circular in shape. In other words, if the generatrix of the curved rolling contact surface of either of the races or the planets was extrapolated, the resultant shape would be a circle. These prolate or oblate spherical shapes are achieved by utilizing a sphere in which the sectors have been removed to make a prolate or oblate spheroid; see page 5, line 20 – page 6, line 24 of Milner '256. This is also clear from claims 9 and 10 of Milner '256.

Consequently, Milner '256 fails to disclose either non-circular races or non-circular planets as is required by amended claim 1 in the instant application.

Furthermore, Milner '256 also fails to disclose that at least part of the generatrix of the curved rolling contact surface of the races and the planets is a volute, involute or evolute curve as is now required by amended claim 1.

For all the foregoing reasons, Applicant respectfully submits that amended claim 1 now clearly defines Applicant's invention over the two Milner references thus overcoming the rejections under 35 U.S.C. §102. Applicant, however, further submits that claim 1, as amended, clearly would not be obvious in view of the prior art of record.

In particular, there is absolutely no suggestion in either of the cited Milner references of having a rolling contact surface of the races that is non-circular as well as a curved rolling contact surface of the races and the planet that is volute, involute or evolute in curve. Since the prior art fails to teach or even suggest anything other than circular races and spherical planets,

Applicant's invention as it is now defined in claim 1 as amended would not be obvious in view of the prior art.

In view of the foregoing, Applicant respectfully submits that the instant application is now in condition for formal allowance and such action is respectfully solicited.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 07-1180.

Dated:

Respectfully submitted,

By_____

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